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Amendments to Specification:

Please replace the paragraph beginning at page 5 Line 28 [26] with the following paragraph:

According to different embodiments of the present invention, at least one packet fiber node may be provided for use in an access network such as, for example, a cable network. The packet fiber node may differ from ~~convention~~ conventional RF fiber nodes deployed in a cable network in that the packet fiber node is configured to communicate with the Head End of the network using baseband optical signals rather than frequency modulated optical signals.

Please replace the paragraph beginning at page 6 Line 14 [12] with the following paragraph:

An alternate embodiment of the present invention is directed to a packet fiber node which comprises a diplexor, at least one interface, and a distributed cable modem termination system (DCMTS). The packet fiber node may be configured to communicate with the Head End using baseband optical signals. Additionally, the packet fiber node may be configured to not include ~~componentry~~ components for communicating with the Head End using frequency modulated optical signals. According to a specific embodiment, the packet fiber node may be configured to perform functions relating to DOCSIS MAC scheduling operations and/or functions relating to layer 1 and layer 2 protocols.

Please replace the paragraph beginning at page 8 Line 3 [1] with the following paragraph:

As commonly known to one having ordinary skill in the art, baseband optical signals may be transmitted over an optical fiber at a higher frequency than RF modulated optical signals. As a result, the available bandwidth of an optical fiber carrying baseband optical signals may be significantly greater than the available bandwidth of RF modulated optical signals traveling over the same optical fiber. Thus, one solution for increasing available bandwidth in the cable network is to modify ~~conventional~~ conventional RF modulated optical communication equipment to include additional equipment for performing baseband optical communication.

Please replace the paragraph beginning at page 8 Line 18 [16] with the following paragraph:

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Currently, extensive research is being conducted for arriving at a preferred technique for ~~intergrating~~ integrating baseband optical communication with broadband (e.g. RF modulated) optical communication in a single fiber node which is also configured to support (1) legacy RF downstreams, (2) legacy RF upstreams (3) packet baseband downstream communication, and (4) packet baseband upstream communication. One such technique is shown in FIGURE 3A of the drawings.

Please replace the paragraph beginning at page 9 Line 7 with the following paragraph:

FIGURE 4 shows the specific embodiment of a modified fiber node 400. In addition to the conventional fiber node components (402, 404, 406, 408, 410) which provide RF modulated optical signal functionality for interfacing RF fiber with coaxial cable, the modified fiber node 400 also includes additional circuitry for providing broadband optical signal communication functionality used for interfacing broadband fiber with conventional coaxial cable. As show in the example of FIGURE 4, the baseband componentry includes a ~~distributed~~ distributed CMTS (DCMTS) 430, up converter 416, signal combiner 412, and signal splitter 414.

Please replace the paragraph beginning at page 13 Line 31 with the following paragraph:

As shown in FIGURE 6, the packet fiber node 600 includes a DCMTS 602, an up converter 604, and diplexor 608. According to a specific implementation, the DCMTS 602 may be configure to perform conversions between packet protocols implemented over the fiber media 613a, 613b and DOCSIS protocols implemented on the coax media 611. According to one embodiment, the packet fiber node (e.g. 520a) may be responsible for handling baseband communications with the Head End 502 and communications for specific DOCSIS channels which are utilized by the cable modems serviced by the packet fiber node. For example, the DCMTS 602 may be configured to handle layer 1 and layer 2 functionality such as the OSI layer management (e.g. physical layer, RF layer, hardware), MAC layer management, data link layer management, framing functionality, DOCSIS protocol functionality, etc. The RF fiber node 506 may be responsible for handling legacy RF related signals (such as, for example, ~~set-topbox~~ set-top box signals, telemetry signals, etc.) and communications which occur on centralized DOCSIS channels.

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Please replace the paragraph beginning at page 18 Line 22 with the following paragraph:

In a specific embodiment, the DCMTS systems of this invention may be specially configured CMTSs or routers such as,.for example, specially configured models in the uBR-7200 series and uBR-10012 series of CMTSs available from Cisco Systems, Inc. of San Jose, California. In an alternative embodiment, the the invention may be implemented on a general-purpose network host machine such as a personal computer or workstation. Further, the invention may be at least partially implemented on a card (e.g., an interface card) for a network device or a general-purpose computing device.